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AMENDMENTS

In the Claims

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Current Status of Claims

1.(canceled)

2.(canceled)

3.(canceled)

4.(canceled)

1 5.(previously presented) The process of claim 39, wherein the material-to-be-treated is a
2 drilling fluid and the non-aqueous fluid product comprises a hydrocarbon product substantially free
3 of contaminants, and the solids product is substantially free of hydrocarbons and other contaminants.

1 6.(previously presented) The process of claim 39, wherein the material-to-be-treated is a used
2 oil and the non-aqueous fluid product comprises a cleaned oil substantially free of water and water
3 soluble contaminants and substantially free of solids.

1 7.(previously presented) The process of claim 6, wherein the cleaned oil has a lower sulfur
2 content than the used oil prior to cleaning.

1 8.(previously presented) The process of claim 39, wherein the material-to-be-treated is a
2 hydrocarbon fuel and the non-aqueous fluid product comprises a cleaned fuel having a lower sulfur
3 content than the hydrocarbon fuel prior to cleaning.

1 9.(previously presented) The process of claim 39, wherein the material is a hydrocarbon
2 contaminated soil and the non-aqueous fluid product comprises a hydrocarbon product substantially
3 free of solids, water and water soluble contaminants, the solids product comprises a cleaned soil
4 substantially free of hydrocarbon and other contaminants, and the aqueous product is substantially
5 free of hydrocarbon.

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1 39.(currently amended) A process for cleaning a material comprising the step of:
2 charging a quantity of a material-to-be-treated selected from the group consisting of drilling
3 fluids, reactor sludges, oil-contaminated soils, oil contaminated water, used oil, hydrocarbon fuels,
4 tar sands, tanker bottoms, refinery bottoms, oil pit residues, refinery waste streams, refinery residue
5 streams, paint wastes, and polymer wastes, where the material-to-be-treated comprises comprising

6 water and water soluble aqueous components, a non-aqueous fluid, and solid materials into an
7 interior of an inner tube of a tubular extraction vessel comprising: an upper portion including an
8 outer tube, an middle tube, and the inner tube; a semi-permeable membrane; and a lower portion,
9 charging a quantity of CO₂ ~~an extraction fluid~~ to a plurality of interior sites of the tubular
10 reactor until the fluid is at or above its critical point,

11 contacting the material-to-be-treated with the CO₂ ~~extracting fluid~~ under conditions of
12 temperature and pressure sufficient to maintain the fluid at, near or above its critical point to produce
13 a treated material comprising the extraction fluid, the non-aqueous fluid and the solid materials;

14 concurrently, removing water and water soluble components via the semi-permeable
15 membrane into the lower portion of the tubular extraction vessel to produce an aqueous product,

16 forwarding the treated material into a first separation vessel comprising an interior, a treated
17 material inlet, a fluid outlet and a solids outlet having a venturi valve,

18 removing the solid materials from the first separation vessel through the venturi valve to a
19 solids storage container to produce a solids product,

20 removing a fluid comprising the non-aqueous fluid and the extraction fluid from the first
21 separation vessel and forwarding the fluid to a second separation vessel having a fluid level sensor,

22 separating the fluid in the second separation vessel into a used CO₂ ~~extracting fluid~~ and a
23 non-aqueous fluid product, and

24 transferring the non-aqueous fluid product to a fluid storage container.